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**ABSTRACT OF THE DISCLOSURE**

A quantum well made out of a the stack of layers of III-V semiconductor materials comprises, in addition to the quantum well, an electron storage layer separated from the quantum well by a transfer barrier layer. The barrier layer has a thickness that is greater than the thickness of the quantum well by about one order of magnitude. This barrier thus enables the separation of the absorption function (in the quantum well) and the function of reading the photocarriers (in the storage layer) and therefore the limiting of the rate of recombination of the carriers, thus improving the performance characteristics of the detector.

Application : IR detector.

**FIGURE 3**

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